

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Guido KRUPP

Appln. No.:

09/937,519

Examiner:

Teresa E. Strzelecka

371 (c) Filing Date: March 5, 2002

Confirmation No.: 9641

For:

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**Detection of Nucleic Acid Amplified** 

**Products** 

Atty. Docket:

Art Unit:

19006.007

1637

## **Information Disclosure Statement**

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

The attention of the Examiner is invited to the references listed on the attached Form PTO-1449.

Copies of the foreign and non-patent references listed on pages 1-3 are submitted herewith.

Copies of the U.S. patents and published applications listed on page 1 of the attached Form PTO-1449 are not submitted herewith, in accordance with the Strategic Plan Final Rule, 69 Fed. Reg 56481-56547 (September 21, 2004), effective October 21, 2004.

Further, Applicants wish to bring to the attention of the Examiner, the following copending applications:

> 1. U.S. Application No. 10/516,007 371 (c) Filing Date: June 8, 2005

Entitled: Amplification of Ribonucleic Acids;

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2. U.S. Application No. 10/526,487

Int'l Filing Date: September 3, 2003

Entitled: Improved Methods for the Synthesis of Nucleic Acids; and

3. U.S. Application No. 60/712,820

Filed: September 1, 2005

Entitled: Universal Method for Selective Amplification of mRNAs

It is respectfully requested that the information above be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

## Certification and/or Fee

Because this Information Disclosure Statement is being submitted after issuance of the first action on the merits of the above-captioned application, a fee of \$180.00 is due pursuant to 37 C.F.R. § 1.17(p). Authorization to charge the official fees for this filing is given in the accompanying transmittal letter.

Respectfully submitted,

David R. Marsh (Reg. No. 41,408)

Rachel L. adams

Rachel L. Adams (Reg. No. 54,660)

Date: February 6, 2006

ARNOLD & PORTER LLP 555 Twelfth Street, N.W. Washington, D.C. 20004-1206 (202) 942-5000 telephone

(202) 942-5999 facsimile

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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.	APPLICATION NO.
19006.007	09/937,519
APPLICANTS	
Guido KRUPP	
371 (c) FILING DATE	GROUP

1637

## U.S. PATENT DOCUMENTS

March 5, 2002

			DOCUMENTS	
	DOCUMENT NUMBER	DATE	NAME	REFERENCE PROVIDED*
.AA1	4,683,195	07/28/1987	Mullis et al.	not required, per 69 Fed. Reg. 56481
AB1	4,683,202	07/28/1987	Mullis	not required, per 69 Fed. Reg. 56481
AC1	5,130,238	07/14/1992	Malek et al.	not required, per 69 Fed. Reg. 56481
ADI	5,256,555	10/26/1993	Milburn et al.	not required, per 69 Fed. Reg. 56481
AE1	5,262,311	11/16/1993	Pardee et al.	not required, per 69 Fed. Reg. 56481
AF1	5,407,800	04/18/1995	Gelfand et al.	not required, per 69 Fed. Reg. 56481
AG1	5,459,037	10/17/1995	Sutcliffe et al.	not required, per 69 Fed. Reg. 56481
AHI	5,514,545	05/07/1996	Eberwine	not required, per 69 Fed. Reg. 56481
AII	5,545,522	08/13/1996	Van Gelder et al.	not required, per 69 Fed. Reg. 56481
AJ1	5,561,058	10/01/1996	Gelfand et al.	not required, per 69 Fed. Reg. 56481
AK1	5,599,672	02/04/1997	Liang	not required, per 69 Fed. Reg. 56481
ALI	5,665,547	09/09/1997	Pardee et al.	not required, per 69 Fed. Reg. 56481
AM1	5,716,785	02/10/1998	Van Gelder et al.	not required, per 69 Fed. Reg. 56481
AN1	5,780,273	07/14/1998	Burg	not required, per 69 Fed. Reg. 56481
AO1	5,837,501	11/17/1998	Beumer et al.	not required, per 69 Fed. Reg. 56481
AP1	5,891,636	04/06/1999	Van Gelder et al.	not required, per 69 Fed. Reg. 56481
AQ1	5,932,451	08/03/1999	Wang et al.	not required, per 69 Fed. Reg. 56481
AR1	5,958,688	09/28/1999	Eberwine et al.	not required, per 69 Fed. Reg. 56481
AS1	5,965,409	10/12/1999	Pardee et al.	not required, per 69 Fed. Reg. 56481
AT1	5,972,607	10/26/1999	Kondo et al.	not required, per 69 Fed. Reg. 56481
AUI	6,090,589	07/18/2000	Dimond et al.	not required, per 69 Fed. Reg. 56481
AV1	6,132,997	10/17/2000	Shannon	not required, per 69 Fed. Reg. 56481
AW1	6,291,170 B1	09/18/2001	Van Gelder et al.	not required, per 69 Fed. Reg. 56481
AX1	US 6,361,949 B1	03/26/2002	Sommer	not required, per 69 Fed. Reg. 56481
AY1	US 6,379,932 B1	04/30/2002	Arnold et al.	not required, per 69 Fed. Reg. 56481
AZ1	US 2003/0129624 A1	07/10/2003	Eastman et al.	not required, per 69 Fed. Reg. 56481
BA1	US 2005/0009027 A1	01/13/2005	Krupp et al.	not required, per 69 Fed. Reg. 56481
	ABI ACI ADI AEI AFI AGI AHI AJI AKI AMI ANI AOI API AQI ARI AVI AVI AWI AXI AXI AXI	NUMBER  AA1 4,683,195  AB1 4,683,202  AC1 5,130,238  AD1 5,256,555  AE1 5,262,311  AF1 5,407,800  AG1 5,459,037  AH1 5,514,545  AII 5,545,522  AJ1 5,561,058  AK1 5,599,672  AL1 5,665,547  AM1 5,716,785  AN1 5,780,273  AO1 5,837,501  AP1 5,891,636  AQ1 5,932,451  AR1 5,958,688  AS1 5,965,409  AT1 5,972,607  AU1 6,090,589  AV1 6,132,997  AW1 6,291,170 B1  AX1 US 6,379,932 B1  AZ1 US 2003/0129624 A1	DOCUMENT NUMBER   DATE	DOCUMENT NUMBER   DATE   NAME

EXAMINER DATE CONSIDERED

<sup>\*</sup>Copies of the listed references are either submitted herewith or were previously cited by or submitted to, the Office in a prior application. Pursuant to 37 C.F.R. § 1.97(d) and MPEP §609, the indicated reference may have been previously cited by or submitted to, the Office in a prior application, where the prior application is identified by its U.S. Application Number in this Information Disclosure Statement.

DATE CONSIDERED

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**EXAMINER** 

FORM PTO-1449
INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.	APPLICATION NO.
19006.007	09/937,519
APPLICANTS	
Guido KRUPP	

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			FOREIGN PA	TENT DOCUMENTS					
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	REFERENCE PROVIDED*		TRANSLA	TION	I
	AA2	0 201 184 A2	12/17/1986	ЕРО	submitted here	with			Yes No
	AB2	0 329 822 A2	08/26/1989	ЕРО	submitted here	with			Yes No
	AC2	0 329 822 A3	08/01/1990	ЕРО	submitted here	with			Yes No
	AD2	0 329 822 B1	06/08/1994	ЕРО	submitted here	with			Yes No
ř.	AE2	0 416 572 B1	05/17/1995	EPO	submitted here	with	(claims only)	X	Yes No
	AF2	0 525 882 A1	02/03/1993	ЕРО	submitted here	with			Yes No
<u>.</u>	AG2	EP 0 525 882 B1	01/14/2004	ЕРО	submitted here	with			Yes No
	AH2	EP 0 592 626 B1	01/29/2003	ЕРО	submitted here	with			Yes No
	AI2	EP 0 707 076 A1	04/17/1996	EPO	submitted here	with			Yes No
	AJ2	EP 0 707 076 B1	03/27/2002	ЕРО	submitted here	with			Yes No
	AK2	EP 1 275 734 A1	01/15/2003	ЕРО	submitted here	with			Yes No
	AL2	JP 08/205897 A	08/13/1996	Japan	submitted here	with	(abstract only)	X	Yes No
	AM2	JP 2843675 B2	01/06/1999	Japan; nat'l phase of WO 93/18176 A1, submitted herewith	submitted here	with		х	Yes No
	AN2	WO 90/14439 A1	11/29/1990	PCT	submitted here	with			Yes No
	AO2	WO 92/08800 A1	05/29/1992	PCT	submitted here	with			Yes No
	AP2	WO 93/18176 A1	09/16/1993	PCT	submitted here	with			Yes No
	AQ2	WO 94/13833 A1	06/23/1994	PCT	submitted here	with			Yes No
	AR2	WO 99/47704 A1	09/23/1999	PCT	submitted here	with	(abstract only)	Х	Yes No
	AS2	WO 00/18966 A2	04/06/2000	PCT	submitted here	with			Yes No
	AT2	WO 00/18966 A3	07/27/2000	PCT	submitted here	with			Yes No

371 (c) FILING DATE

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FORM PTO-1449 MAT<u>ION DISCLOSURE STATEMENT</u> ATTY. DOCKET NO. APPLICATION NO. 19006.007 09/937,519

**GROUP** 

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APPLICANTS

Guido KRUPP

371 (c) FILING DATE
March 5, 2002

FOREIGN PATENT DOCUMENTS

			FOREIGN PA	ATENT DOCUMENT	S				
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	REFERENCE PROVIDED*		TRANSLA	TION	I
	AA3	WO 00/75356 A1	12/14/2000	PCT	submitted herewith	1			Yes No
	AB3	WO 01/71036 A2	09/27/2001	PCT	submitted herewith	1			Yes
	AC3	WO 01/071036 A3	10/24/2002	PCT	submitted herewith	1			Yes No
	AD3	WO 03/020873 A2	03/13/2003	PCT	submitted herewith	1	(abstract only)	х	Ye. No
q	AE3	WO 03/102232 A2	12/11/2003	PCT	submitted herewith	ı	(abstract only)	X	Ye No
	AF3	WO 2004/022574 A2	03/18/2004	PCT	submitted herewith	1	(abstract only)	X	Ye
		OTHER (Including Auth	or, Title, Date, Pert	inent Pages, etc.)	1	REFERI	ENCE PROV	IDED	*
	AG3	Baugh et al., "Quantitati transcription", Nucleic A	•	•	by in vitro	submitte	d herewith		
	АН3	Berger et al., "Reverse Transcriptase and Its Associated Ribonuclease H: Interplay of Two Enzyme Activities Controls the Yield of Single-Stranded Complementary Deoxyribonucleic Acid", Biochemistry, 22(10):2365-2372 (1983)			d herewith				
	AI3	Boom et al., "Rapid and Simple Method for Purification of Nucleic Acids", J. Clin. Microbiol., 28(3):495-503 (1990)			submitte	d herewith			
	АЈ3	Boularand et al., "The Human Tryptophan Hydroxylase Gene: an Unusual Splicing Complexity in the 5'-Untranslated Region", J. Biol. Chem., 270(8):3748-3756 (1995)			submitted herewith				
	AK3 Bratty et al., "The hammerhead RNA domain, a model ribozyme", Biochim. Biophys. Acta, 1216:345-359 (1993)			submitted herewith					
	AL3  Burgin et al., "Chemically Modified Hammerhead Ribozymes with Improved Catalytic Rates", Biochemistry, 35(45):14090-14097 (1996)			submitted herewith					
	AM3	Clouet-d'Orval et al., "Hammerhead Ribozymes with a Faster Cleavage Rate", Biochemistry, 36(30):9087-9092 (1997)			submitte	d herewith			
	AN3	Database WPI, AN 96-4 Ltd. (October 1996)	19828, Abstract	of JP 8-205897, De	erwent Publications	submitte	d herewith		
EXAMINER	1		· · · · · · · · · · · · · · · · · · ·		D	ATE CON	SIDERED		

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and

not considered. Include copy of this form with next communication to Applicant.

\*Copies of the listed references are either submitted herewith or were previously cited by or submitted to, the Office in a prior application. Pursuant to 37 C.F.R. § 1.97(d) and MPEP §609, the indicated reference may have been previously cited by or submitted to, the Office in a prior application, where the prior application is identified by its U.S. Application Number in this Information Disclosure Statement.

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			371 (c) FILING DATE	GROUP
			March 5, 2002	1637
		OTHER (Including Author, Title, Date, Pe	ertinent Pages, etc.)	REFERENCE PROVIDED*
	AA4	Eberwine et al., "Analysis of gene ex Acad. Sci. USA, 89:3010-3014 (1992)	pression in single live neurons", Proc. Natl.	submitted herewith
	AB4	Fahy et al., "Self-sustained Sequence Transcription-based Amplification Sy and Applications, 1:25-33 (1991)	Replication (3SR): An Isothermal vstem Alternative to PCR", PCR Methods	submitted herewith
	AC4		liolabeling DNA Restriction Endonuclease, Analytical Biochemistry, 132(1):6-13	submitted herewith
	AD4		full-length cDNAs from rare transcripts: ecific oligonucleotide primer", <i>Proc. Natl.</i>	submitted herewith
	AE4	Hames et al. (Eds.), Nucleic acid hyb Approach Series), IRL Press Ltd., pp.	ridisation: a practical approach (Practical 179-202 (1985)	submitted herewith
	AF4	Hanne et al, "Fluorescence resonance reactions in real time", Nucleosides &	submitted herewith	
	AG4	International Search Report, Applicat	submitted herewith	
	AH4	International Search Report, Applicat	ion No. PCT/EP02/09348 (August 22, 2003	submitted herewith
	AI4	International Search Report, Applicat 2003)	ion No. PCT/EP03/05579 (December 12,	submitted herewith
	AJ4	International Search Report, Applicat	ion No. PCT/EP03/09756 (March 4, 2004)	submitted herewith
	AK4	Jenne et al., "Real-Time Characteriza Resonance Energy Transfer (FRET)", (1999)	tion of Ribozymes by Fluorescence, Angew. Chem. Int. Ed., 38(9):1300-1303	submitted herewith
	AL4		enzymatic in vitro nucleic acid amplification infection", J. Virol. Methods, 35(3):273-28	

<sup>\*</sup>Copies of the listed references are either submitted herewith or were previously cited by or submitted to, the Office in a prior application. Pursuant to 37 C.F.R. § 1.97(d) and MPEP §609, the indicated reference may have been previously cited by or submitted to, the Office in a prior application, where the prior application is identified by its U.S. Application Number in this Information Disclosure Statement.

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT

**EXAMINER** 

ATTY, DOCKET NO. APPLICATION NO. 19006.007 09/937,519 **APPLICANTS** Guido KRUPP

371 (c) FILING DATE **GROUP** March 5, 2002 1637 REFERENCE PROVIDED\* OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Konarska et al., "Replication of RNA by the DNA-Dependent RNA Polymerase AA5 submitted herewith of Phage T7", Cell, 57:423-431 (1989) Konarska et al., "Structure of RNAs Replicated by the DNA-Dependent T7 RNA AB5 submitted herewith Polymerase", Cell, 63:609-618 (1990) Krupp, "Stringent RNA quality control using the Agilent 2100 bioanalyzer", AC5 submitted herewith Application Note, Agilent Technologies (2005) Krupp, "Unusual promoter-independent transcription reactions with bacteriophage AD5 submitted herewith RNA polymerases", Nucleic Acids Research, 17(8):3023-3036 (1989) Kuhn et al., "Specific interaction of the murine transcription termination factor AE5 submitted herewith TTF I with class-I RNA polymerases", Nature, 344:559-562 (1990) Liang et al., "Differential Display of Eukaryotic Messenger RNA by Means of the AF5 submitted herewith Polymerase Chain Reaction", Science, 257:967-971 (1992) Lockhart et al., "Expression monitoring by hybridization to high-density AG5 submitted herewith oligonucleotide arrays", Nature Biotechnology, 14:1675-1680 (1996) Löffler et al., Biochemie und Pathobiochemie, pp. 150-154, Springer-Verlag AH5 submitted herewith (1998)Mahony et al., "Urine Specimens from Pregnant and Nonpregnant Women Inhibitory to Amplification of Chlamydia trachomatis Nucleic Acid by PCR, AI5 Ligase Chain Reaction, and Transcription-Mediated Amplification: Identification submitted herewith of Urinary Substances Associated with Inhibition and Removal of Inhibitory Activity", J. Clin. Microbiol., 36(11):3122-3126 (1998) Mathieu-Daudé et al., "DNA rehybridization during PCR: the 'Cot effect' and its AJ5 submitted herewith consequences", Nucleic Acids Research, 24(11):2080-2086 (1996) Milligan et al., "Synthesis of Small RNAs Using T7 RNA Polymerase", Methods AK5 submitted herewith in Enzymology, Vol. 180, pp. 51-62, Academic Press, Inc. (1989) Mueller et al., "RNA Integrity Number (RIN) - Standardization of RNA Quality AL5 submitted herewith Control", Application Note, Agilent Technologies (2004) DATE CONSIDERED

<sup>\*</sup>Copies of the listed references are either submitted herewith or were previously cited by or submitted to, the Office in a prior application. Pursuant to 37 C.F.R. § 1.97(d) and MPEP §609, the indicated reference may have been previously cited by or submitted to, the Office in a prior application, where the prior application is identified by its U.S. Application Number in this Information Disclosure Statement.

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FORM PTO-1449 ORMATION DISCLOSURE STATEMENT ATTY. DOCKET NO.

19006.007

APPLICATION NO.

09/937,519

APPLICANTS

Guido KRUPP

371 (c) FILING DATE GROUP March 5, 2002 1637

		141d of 3, 2002	1037
		REFERENCE PROVIDED*	
	Müller et al., "Amino Acid Requirements of the Nucleocapsid Protein of HIV-1 for Increasing Catalytic Activity of a Ki-ras Ribozyme", J. Mol. Biol., 242:422-429 (1994)		submitted herewith
	AB6	Nedbal et al., "The Association of Complementary Ribonucleic Acids Can Be Strongly Increased without Lowering Arrhenius Activation Energies or Significantly Altering Structures", Biochemistry, 36:13552-13557 (1997)	submitted herewith
	AC6	Pezo et al., "Hypermutagenic in vitro transcription employing biased NTP pools and manganese cations", Gene, 186:67-72 (1997)	submitted herewith
÷	AD6	Poirier et al., "Screening differentially expressed cDNA clones obtained by differential display using amplified RNA", Nucleic Acids Research, 25(4):913-914 (1997)	submitted herewith
•	AE6	Puskás et al., "RNA Amplification Results in Reproducible Microarray Data with Slight Ratio Bias", BioTechniques, 32(6):1330-1340 (2002)	submitted herewith
	AF6	Richmond et al., "Genome-wide expression profiling in Escherichia coli K-12", Nucleic Acids Research, 27(19):3821-3835 (1999)	submitted herewith
	AG6	Saiki et al., "Enzymatic Amplification of β-Globin Genomic Sequences and Restriction Site Analysis for Diagnosis of Sickle Cell Anemia", Science, 230:1350-1354 (1985)	submitted herewith
	АН6	Sargent, "Isolation of Differentially Expressed Genes", Methods in Enzymology, Vol. 152, pp. 423-432, Academic Press, Inc. (1987)	submitted herewith
	AI6	Sarkar et al., "Access to a Messenger RNA Sequence or its Protein Product is Not Limited by Tissue or Species Specificity", Science, 244:331-334 (1989)	submitted herewith
	AJ6	Singh et al., "Design of Hammerhead Ribozymes to Distinguish Single Base Changes in Substrate RNA", Antisense and Nucleic Acid Drug Development, 6:165-168 (1996)	submitted herewith
	AK6	Sioud et al., "Enhancement of Hammerhead Ribozyme Catalysis by Glyceraldehyde-3-phosphate Dehydrogenase", J. Mol. Biol., 257:775-789 (1996)	submitted herewith
	AL6	Sooknanan et al., "Nucleic Acid Sequence-Based Amplification", Molecular Methods for Virus Detection, Wiedbrauk and Farkas (eds.), Chapter 12, pp 261-285, Academic Press, Inc. (1995)	submitted herewith
EXAMINER			DATE CONSIDERED

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		Ma	arch 5, 2002	1637
		OTHER (Including Author, Title, Date, Pertinent P	ages, etc.)	REFERENCE PROVIDED*
	AA7	Stoflet et al., "Genomic Amplification with Tra 239:491-494 (1988)	anscript Sequencing", Science,	submitted herewith
	AB7	Taylor et al., "Chimeric DNA-RNA hammerhe vitro catalytic efficiency and increased stability 20(17):4559-4565 (1992)		, submitted herewith
	AC7	Tyagi et al., "Multicolor molecular beacons for Biotechnology, 16:49-53 (1998)	r allele discrimination", Nature	submitted herewith
•	AD7	Van Gelder et al., "Amplified RNA synthesised heterogeneous cDNA", Proc. Natl. Acad. Sci. 1		submitted herewith
•	AE7	Wyatt et al., "Synthesis and Purification of Lar Oligonucleotides", BioTechniques, 11(6):764-7		submitted herewith
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<sup>\*</sup>Copies of the listed references are either submitted herewith or were previously cited by or submitted to, the Office in a prior application. Pursuant to 37 C.F.R. § 1.97(d) and MPEP §609, the indicated reference may have been previously cited by or submitted to, the Office in a prior application, where the prior application is identified by its U.S. Application Number in this Information Disclosure Statement.